

## AN OPTICAL COMPONENT AND A METHOD OF FABRICATING AN OPTICAL COMPONENT

### ABSTRACT

The invention relates to a method of manufacturing an optical component (800). It also relates to a branching unit and to a method of reducing insertion loss in an optical branching unit. It further relates to a method of reducing stress induced polarization effects in spaced planar waveguides (e.g. couplers) and stress induced tilting of the cores due to strain fields introduced by the top-cladding. It also relates to a method for filling high-aspect-ratio structures with material during reflow. The present invention proposes the use of additional structural elements such as transversal elements (850) connected to or pads (840, 841) or elongate elements located in the vicinity of ordinary waveguide core sections (801, 802). The additional structural elements are typically formed in the same processing step as the ordinary waveguide core sections. The additional structural elements have the purpose of enabling a better filling of small volumes between closely spaced waveguide core sections with cladding material thereby avoiding the creation of voids and to reduce the stress induced in neighbouring waveguide core sections thereby reducing birefringence. In some cases this or these effects may be combined with an improved control of the coupling of light from one waveguide to the other (such as in a directional coupler) or the provision of a gradual change in refractive index over a certain length between neighbouring waveguides (such as in a splitter). The invention may be used in connection with the distribution of signals in optical systems (e.g. CATV) or components, e.g. in the form of splitters and VOAs, as individual components or integrated on a chip.

(FIG. 18 should be published)